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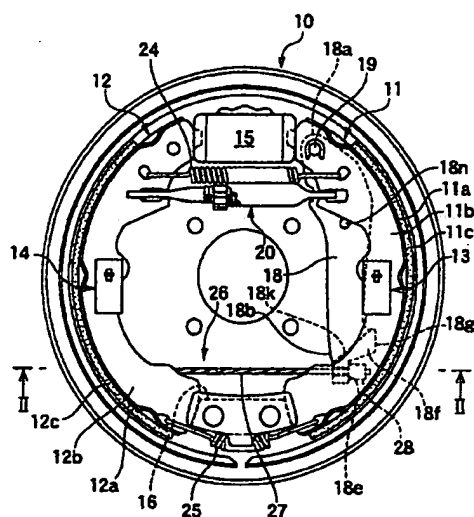
(30) Priority: **12.02.2003 JP 2003034231**

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(54) **Brake cable connecting apparatus for a drum brake device**

(57) A cable disengagement prevention configuration for a drum brake device that provides a simple and safe connection of a brake cable to a brake lever and reliably prevents disengagement of the brake cable after connecting the brake cable to the brake lever. The cable disengagement prevention configuration mainly comprises a bowfront portion 18f of the brake lever 18 and a brake shoe 11. The bowfront portion 18f is formed between a primary seating 18e and a secondary seating 18g and is positioned apart from the primary seating 18e at an opening side of a U-shaped groove 18d. The cable disengagement prevention configuration allows a cable end fitting 28 to pass through a gap between the brake lever 18 and the brake shoe 11 only when rotating the brake lever 18.

Fig. 1





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EUROPEAN SEARCH REPORT

Application Number
EP 04 29 0360

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 25, 12 April 2001 (2001-04-12) - & JP 2001 234957 A (HOSEI BRAKE IND LTD), 31 August 2001 (2001-08-31) * abstract; figures 1,3,4 *	1-6	F16D65/22
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) - & JP 10 220506 A (NISSHINBO IND INC), 21 August 1998 (1998-08-21) * abstract; figures 1,13 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			F16D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 22 September 2004	Examiner Topolski, J
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2001234957 A	31-08-2001	JP 3283028 B2 US 2001017245 A1	20-05-2002 30-08-2001
JP 10220506 A	21-08-1998	NONE	

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